

# Prof. Dr. Andreas Wahner

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## Curriculum vitae

1975 - 1977	Vordiplom (Chemistry) Ruhr-Universität Bochum
1981	Diplom (Chemistry) Ruhr-Universität Bochum
11.May 1984	Ph.D. (Chemistry) Ruhr-Universität Bochum
1983 - 1985	research scientist at Fraunhofer Institut für Toxikologie und Aerosolforschung, Hannover
1985 - 1988	research associate at CIRES (Cooperative Institute for Research in Environmental Sciences, University Colorado) and in the Atmospheric Chemical Kinetics Group (Dr. C. Howard und Dr. A. R. Ravishankara) at NOAA ERL (National Oceanic and Atmospheric Administration, Environmental Research Laboratories) in Boulder, Colorado, USA
1988 - 2001	senior scientist at the Institut für Atmosphärische Chemie (ICG-3) of the Forschungszentrum Jülich group leader: "Heterogeneous Chemistry"
2001	Habilitation Meteorology at University Cologne
2001 - 2010	Director; Institut für Chemie und Dynamik der Geosphäre; ICG-2: Troposphäre, Research Center Jülich, Germany
2002 - present	University full professor for Meteorologie at University Cologne
2007 - present	Executive director at Rheinisches Institut für Umweltforschung, EURAD, at University Cologne
2010 - present	Director: Institut für Energie und Klimaforschung, IEK-8: Troposphäre, Research Center Jülich
2012 - 2013	Chairperson of the Scientific and Technical Council, Forschungszentrum Jülich GmbH
2012 - 2014	Chairperson of the Scientific and Technical Council of all Helmholtz-Centers, Helmholtz Association, Berlin
2014 - present	Vice President, IAGOS AISBL In-Service Aircraft for a Global Observing System, Association Internationale sans but lucratif

## Activities in the scientific community, honors, awards

1991	Contributor, Scientific Assessment of Ozone Depletion:, Chapter 11, Ultraviolet Radiation Changes, WMO, Report No. 25
1994	Contributor, Climate Change, Chapter 2, Other Trace Gases and Atmospheric Chemistry, IPCC, 1995
1994	Lead author, Scientific Assessment of Ozone Depletion:, Chapter 11, Subsonic and Supersonic Aircraft Emissions, WMO, Report No. 37, 1995
1997	Author, European Scientific Assessment of the Atmospheric Effects of Aircraft Emissions: EC, 1997
1998	Review Editor, IPCC Special Report on Aviation and the Global Atmosphere, Chapter 2, Impacts of Aircraft Emissions on Atmospheric Ozone, IPCC
2003 - 2009	Editor of the Journal of Atmospheric Chemistry, Springer
2003 - 2009	Member of the editorial board of Atmospheric Research, Elsevier
2008 - present	Member of the International Advisory Board of the College of Environmental Science and Engineering, Peking University, China
2008 - 2012	Member of the „Nordrheinwestfälischen Energie- und Klimarat“
2009 - 2012	Member of the Scientific Advisory Board of the Leibniz-Institut für Troposphärenforschung e.V. (IfT) / Berufung zum Mitglied im wissenschaftlichen Beirat des IfT
2010	Member of the European Volcanic Ash Cloud Experts Group (EVACEG)

2010 - present	Member of the Advisory Committee of Research Center for Environmental Changes, Academia Sinica, Taipei, Taiwan
2010 - present	Chairperson of the scientific steering committee (WLA) research aircraft HALO
2012 - present	Chairperson of the Scientific Advisory Board of the Leibniz-Institut für Troposphärenforschung e.V. (TROPOS)
2014 - present	Guest Professor of Peking University (Beijing, China)

### Research fields

- Air pollution and climate, chemistry and climate interaction
- Global and regional modelling of atmospheric chemistry, air pollution forecast
- Atmospheric chemical kinetics: Laboratory investigations of elementary reactions of the hydroxyl radical (hydrocarbon and sulphur chemistry).
- Laboratory and field investigations of the tropospheric photo chemistry; oxidation capacity of the troposphere.
- Heterogeneous chemistry of nitrogen compounds and radicals in the troposphere.
- Field and simulations experiments of the tropospheric photochemistry, in particular the role of the hydroxyl radical. Impact of anthropogenic and biogenic emissions on the self-cleaning of the troposphere and chemistry climate interaction
- Climate and air quality effects of multi component aerosols, chemistry climate models

### Selected Publications

Statistics: Total number of Articles 119 Sum of the Times Cited: 2681 Last Updated: 01/14/2015  
Average Citations per Article: 22.91 h-index: 33

- Rohrer, F., K. D. Lu, A. Hofzumahaus, B. Bohn, T. Brauers, C. C. Chang, H. Fuchs, R. Haseler, F. Holland, M. Hu, K. Kita, Y. Kondo, X. Li, S. R. Lou, A. Oebel, M. Shao, L. M. Zeng, T. Zhu, Y. H. Zhang, and A. Wahner (2014), Maximum efficiency in the hydroxyl-radical-based self-cleansing of the troposphere, *Nature Geoscience*, 7(8), 559-563.
- Li, X., F. Rohrer, A. Hofzumahaus, T. Brauers, R. Haseler, B. Bohn, S. Broch, H. Fuchs, S. Gomm, F. Holland, J. Jäger, J. Kaiser, F. N. Keutsch, I. Lohse, K. D. Lu, R. Tillmann, R. Wegener, G. M. Wolfe, T. F. Mentel, A. Kiendler-Scharr, and A. Wahner (2014), Missing Gas-Phase Source of HONO Inferred from Zeppelin Measurements in the Troposphere, *Science*, 344(6181), 292-296.
- Donahue, N. M., K. M. Henry, T. F. Mentel, A. Kiendler-Scharr, C. Spindler, B. Bohn, T. Brauers, H. P. Dorn, H. Fuchs, R. Tillmann, A. Wahner, H. Saathoff, K. H. Naumann, O. Mohler, T. Leisner, L. Müller, M. C. Reinnig, T. Hoffmann, K. Salo, M. Hallquist, M. Frosch, M. Bilde, T. Tritscher, P. Barmet, A. P. Praplan, P. F. DeCarlo, J. Dommen, A. S. H. Prevot, and U. Baltensperger (2012), Aging of biogenic secondary organic aerosol via gas-phase OH radical reactions, *Proceedings of the National Academy of Sciences of the United States of America*, 109(34), 13503-13508.
- Ehn, M., J. A. Thornton, E. Kleist, M. Sipila, H. Junninen, I. Pullinen, M. Springer, F. Rubach, R. Tillmann, B. Lee, F. Lopez-Hilfiker, S. Andres, I.-H. Acir, M. Rissanen, T. Jokinen, S. Schobesberger, J. Kangasluoma, J. Kontkanen, T. Nieminen, T. Kurten, L. B. Nielsen, S. Jorgensen, H. G. Kjaergaard, M. Canagaratna, M. D. Maso, T. Berndt, T. Petaja, A. Wahner, V.-M. Kerminen, M. Kulmala, D. R. Worsnop, J. Wildt, and T. F. Mentel (2014), A large source of low-volatility secondary organic aerosol, *Nature*, 506(7489), 476-479.
- Fuchs, H., A. Hofzumahaus, F. Rohrer, B. Bohn, T. Brauers, H. P. Dorn, R. Haseler, F. Holland, M. Kaminski, X. Li, K. Lu, S. Nehr, R. Tillmann, R. Wegener, and A. Wahner (2013), Experimental evidence for efficient hydroxyl radical regeneration in isoprene oxidation, *Nature Geoscience*, 6(12), 1023-1026.
- Hofzumahaus, A., F. Rohrer, K. D. Lu, B. Bohn, T. Brauers, C. C. Chang, H. Fuchs, F. Holland, K. Kita, Y. Kondo, X. Li, S. R. Lou, M. Shao, L. M. Zeng, A. Wahner, and Y. H. Zhang (2009), Amplified Trace Gas Removal in the Troposphere, *Science*, 324(5935), 1702-1704.
- Kiendler-Scharr, A., J. Wildt, M. Dal Maso, T. Hohaus, E. Kleist, T. F. Mentel, R. Tillmann, R. Uerlings, U. Schurr, and A. Wahner (2009), New particle formation in forests inhibited by isoprene emissions, *Nature*, 461(7262), 381-384.

1. Wildt, J., T. F. Mentel, A. Kiendler-Scharr, T. Hoffmann, S. Andres, M. Ehn, E. Kleist, P. Musgen, F. Rohrer, Y. Rudich, M. Springer, R. Tillmann, and A. Wahner (2014), Suppression of new particle formation from monoterpene oxidation by NO<sub>x</sub>, *Atmos Chem Phys*, 14(6), 2789-2804.
2. Smit, H. G. J., S. Rohs, P. Neis, D. Boulanger, M. Kramer, A. Wahner, and A. Petzold (2014), Technical Note: Reanalysis of upper troposphere humidity data from the MOZAIC programme for the period 1994 to 2009, *Atmos Chem Phys*, 14(23), 13241-13255.
3. Rohrer, F., K. D. Lu, A. Hofzumahaus, B. Bohn, T. Brauers, C. C. Chang, H. Fuchs, R. Haseler, F. Holland, M. Hu, K. Kita, Y. Kondo, X. Li, S. R. Lou, A. Oebel, M. Shao, L. M. Zeng, T. Zhu, Y. H. Zhang, and A. Wahner (2014), Maximum efficiency in the hydroxyl-radical-based self-cleansing of the troposphere, *Nature Geoscience*, 7(8), 559-563.
4. Nehr, S., B. Bohn, H. P. Dorn, H. Fuchs, R. Haseler, A. Hofzumahaus, X. Li, F. Rohrer, R. Tillmann, and A. Wahner (2014), Atmospheric photochemistry of aromatic hydrocarbons: OH budgets during SAPHIR chamber experiments, *Atmos Chem Phys*, 14(13), 6941-6952.
5. Lu, K. D., F. Rohrer, F. Holland, H. Fuchs, T. Brauers, A. Oebel, R. Dlugi, M. Hu, X. Li, S. R. Lou, M. Shao, T. Zhu, A. Wahner, Y. H. Zhang, and A. Hofzumahaus (2014), Nighttime observation and chemistry of HO<sub>x</sub> in the Pearl River Delta and Beijing in summer 2006, *Atmos Chem Phys*, 14(10), 4979-4999.
6. Li, X., F. Rohrer, A. Hofzumahaus, T. Brauers, R. Haseler, B. Bohn, S. Broch, H. Fuchs, S. Gomm, F. Holland, J. Jäger, J. Kaiser, F. N. Keutsch, I. Lohse, K. D. Lu, R. Tillmann, R. Wegener, G. M. Wolfe, T. F. Mentel, A. Kiendler-Scharr, and A. Wahner (2014), Missing Gas-Phase Source of HONO Inferred from Zeppelin Measurements in the Troposphere, *Science*, 344(6181), 292-296.
7. Li, X., F. Rohrer, T. Brauers, A. Hofzumahaus, K. Lu, M. Shao, Y. H. Zhang, and A. Wahner (2014), Modeling of HCHO and CHOCHO at a semi-rural site in southern China during the PRIDE-PRD2006 campaign, *Atmos Chem Phys*, 14(22), 12291-12305.
8. Fuchs, H., I. H. Acir, B. Bohn, T. Brauers, H. P. Dorn, R. Haseler, A. Hofzumahaus, F. Holland, M. Kaminski, X. Li, K. Lu, A. Lutz, S. Nehr, F. Rohrer, R. Tillmann, R. Wegener, and A. Wahner (2014), OH regeneration from methacrolein oxidation investigated in the atmosphere simulation chamber SAPHIR, *Atmos Chem Phys*, 14(15), 7895-7908.
9. Ehn, M., J. A. Thornton, E. Kleist, M. Sipila, H. Junninen, I. Pullinen, M. Springer, F. Rubach, R. Tillmann, B. Lee, F. Lopez-Hilfiker, S. Andres, I. H. Acir, M. Rissanen, T. Jokinen, S. Schobesberger, J. Kangasluoma, J. Kontkanen, T. Nieminen, T. Kurten, L. B. Nielsen, S. Jorgensen, H. G. Kjaergaard, M. Canagaratna, M. Dal Maso, T. Berndt, T. Petaja, A. Wahner, V. M. Kerminen, M. Kulmala, D. R. Worsnop, J. Wildt, and T. F. Mentel (2014), A large source of low-volatility secondary organic aerosol, *Nature*, 506(7489), 476-+.
10. Wahner, A., G. Gramse, T. Langer, and M. Beyer (2013), Determination of the minimum ignition energy on the basis of a statistical approach, *J Loss Prevent Proc*, 26(6), 1655-1660.
11. Varma, R. M., S. M. Ball, T. Brauers, H. P. Dorn, U. Heitmann, R. L. Jones, U. Platt, D. Pöhler, A. A. Ruth, A. J. L. Shillings, J. Thieser, A. Wahner, and D. S. Venables (2013), Light extinction by secondary organic aerosol: an intercomparison of three broadband cavity spectrometers, *Atmos Meas Tech*, 6(11), 3115-3130.
12. Mentel, T. F., E. Kleist, S. Andres, M. Dal Maso, T. Hohaus, A. Kiendler-Scharr, Y. Rudich, M. Springer, R. Tillmann, R. Uerlings, A. Wahner, and J. Wildt (2013), Secondary aerosol formation from stress-induced biogenic emissions and possible climate feedbacks, *Atmos Chem Phys*, 13(17), 8755-8770.
13. Manninen, H. E., S. Mirme, M. Ehn, K. Leino, S. Schobesberger, H. Junninen, E. Jarvinen, J. Kangasluoma, T. Nieminen, R. Tillmann, F. Angelini, G. P. Gobbi, A. Mirme, S. Decesari, A. Wahner, T. Petaja, D. R. Worsnop, F. Rohrer, T. F. Mentel, and M. Kulmala (2013), Does the Onset of New Particle Formation Occur in the Planetary Boundary Layer?, *Aip Conf Proc*, 1527, 567-570.
14. Lu, K. D., A. Hofzumahaus, F. Holland, B. Bohn, T. Brauers, H. Fuchs, M. Hu, R. Haseler, K. Kita, Y. Kondo, X. Li, S. R. Lou, A. Oebel, M. Shao, L. M. Zeng, A. Wahner, T. Zhu, Y. H. Zhang, and F. Rohrer (2013), Missing OH source in a suburban environment near Beijing: observed and modelled OH and HO<sub>2</sub> concentrations in summer 2006, *Atmos Chem Phys*, 13(2), 1057-1080.
15. Li, Y. P., H. Elbern, K. D. Lu, E. Friese, A. Kiendler-Scharr, T. F. Mentel, X. S. Wang, A. Wahner, and Y. H. Zhang (2013), Updated aerosol module and its application to simulate secondary organic aerosols during IMPACT campaign May 2008, *Atmos Chem Phys*, 13(13), 6289-6304.
16. Li, X., T. Brauers, A. Hofzumahaus, K. Lu, Y. P. Li, M. Shao, T. Wagner, and A. Wahner (2013), MAX-DOAS measurements of NO<sub>2</sub>, HCHO and CHOCHO at a rural site in Southern China, *Atmos Chem Phys*, 13(4), 2133-2151.

17. Fuchs, H., A. Hofzumahaus, F. Rohrer, B. Bohn, T. Brauers, H. P. Dorn, R. Haseler, F. Holland, M. Kaminski, X. Li, K. Lu, S. Nehr, R. Tillmann, R. Wegener, and A. Wahner (2013), Experimental evidence for efficient hydroxyl radical regeneration in isoprene oxidation, *Nature Geoscience*, 6(12), 1023-1026.
18. Emanuelsson, E. U., M. Hallquist, K. Kristensen, M. Glasius, B. Bohn, H. Fuchs, B. Kammer, A. Kiendler-Scharr, S. Nehr, F. Rubach, R. Tillmann, A. Wahner, H. C. Wu, and T. F. Mentel (2013), Formation of anthropogenic secondary organic aerosol (SOA) and its influence on biogenic SOA properties, *Atmos Chem Phys*, 13(5), 2837-2855.
19. Dorn, H. P., R. L. Apodaca, S. M. Ball, T. Brauers, S. S. Brown, J. N. Crowley, W. P. Dube, H. Fuchs, R. Haseler, U. Heitmann, R. L. Jones, A. Kiendler-Scharr, I. Labazan, J. M. Langridge, J. Meinen, T. F. Mentel, U. Platt, D. Pöhler, F. Rohrer, A. A. Ruth, E. Schlosser, G. Schuster, A. J. L. Shillings, W. R. Simpson, J. Thieser, R. Tillmann, R. Varma, D. S. Venables, and A. Wahner (2013), Intercomparison of NO<sub>3</sub> radical detection instruments in the atmosphere simulation chamber SAPHIR, *Atmos Meas Tech*, 6(5), 1111-1140.
20. Sang, X. F., I. Gensch, W. Laumer, B. Kammer, C. Y. Chan, G. Engling, A. Wahner, H. Wissel, and A. Kiendler-Scharr (2012), Stable Carbon Isotope Ratio Analysis of Anhydrosugars in Biomass Burning Aerosol Particles from Source Samples, *Environ Sci Technol*, 46(6), 3312-3318.
21. Nehr, S., B. Bohn, and A. Wahner (2012), Prompt HO<sub>2</sub> Formation Following the Reaction of OH with Aromatic Compounds under Atmospheric Conditions, *J Phys Chem A*, 116(24), 6015-6026.
22. Lu, K. D., F. Rohrer, F. Holland, H. Fuchs, B. Bohn, T. Brauers, C. C. Chang, R. Haseler, M. Hu, K. Kita, Y. Kondo, X. Li, S. R. Lou, S. Nehr, M. Shao, L. M. Zeng, A. Wahner, Y. H. Zhang, and A. Hofzumahaus (2012), Observation and modelling of OH and HO<sub>2</sub> concentrations in the Pearl River Delta 2006: a missing OH source in a VOC rich atmosphere, *Atmos Chem Phys*, 12(3), 1541-1569.
23. Li, X., T. Brauers, R. Haseler, B. Bohn, H. Fuchs, A. Hofzumahaus, F. Holland, S. Lou, K. D. Lu, F. Rohrer, M. Hu, L. M. Zeng, Y. H. Zhang, R. M. Garland, H. Su, A. Nowak, A. Wiedensohler, N. Takegawa, M. Shao, and A. Wahner (2012), Exploring the atmospheric chemistry of nitrous acid (HONO) at a rural site in Southern China, *Atmos Chem Phys*, 12(3), 1497-1513.
24. Kiendler-Scharr, A., S. Andres, M. Bachner, K. Behnke, S. Broch, A. Hofzumahaus, F. Holland, E. Kleist, T. F. Mentel, F. Rubach, M. Springer, B. Steitz, R. Tillmann, A. Wahner, J. P. Schnitzler, and J. Wildt (2012), Isoprene in poplar emissions: effects on new particle formation and OH concentrations, *Atmos Chem Phys*, 12(2), 1021-1030.
25. Kanaya, Y., A. Hofzumahaus, H. P. Dorn, T. Brauers, H. Fuchs, F. Holland, F. Rohrer, B. Bohn, R. Tillmann, R. Wegener, A. Wahner, Y. Kajii, K. Miyamoto, S. Nishida, K. Watanabe, A. Yoshino, D. Kubistin, M. Martinez, M. Rudolf, H. Harder, H. Berresheim, T. Elste, C. Plass-Dulmer, G. Stange, J. Kleffmann, Y. Elshorbany, and U. Schurath (2012), Comparisons of observed and modeled OH and HO<sub>2</sub> concentrations during the ambient measurement period of the HO(x)Comp field campaign, *Atmos Chem Phys*, 12(5), 2567-2585.
26. Fuchs, H., W. R. Simpson, R. L. Apodaca, T. Brauers, R. C. Cohen, J. N. Crowley, H. P. Dorn, W. P. Dube, J. L. Fry, R. Haseler, Y. Kajii, A. Kiendler-Scharr, I. Labazan, J. Matsumoto, T. F. Mentel, Y. Nakashima, F. Rohrer, A. W. Rollins, G. Schuster, R. Tillmann, A. Wahner, P. J. Wooldridge, and S. S. Brown (2012), Comparison of N<sub>2</sub>O<sub>5</sub> mixing ratios during NO<sub>3</sub>Comp 2007 in SAPHIR, *Atmos Meas Tech*, 5(11), 2763-2777.
27. Fuchs, H., H. P. Dorn, M. Bachner, B. Bohn, T. Brauers, S. Gomm, A. Hofzumahaus, F. Holland, S. Nehr, F. Rohrer, R. Tillmann, and A. Wahner (2012), Comparison of OH concentration measurements by DOAS and LIF during SAPHIR chamber experiments at high OH reactivity and low NO concentration, *Atmos Meas Tech*, 5(7), 1611-1626.
28. Elshorbany, Y. F., J. Kleffmann, A. Hofzumahaus, R. Kurtenbach, P. Wiesen, T. Brauers, B. Bohn, H. P. Dorn, H. Fuchs, F. Holland, F. Rohrer, R. Tillmann, R. Wegener, A. Wahner, Y. Kanaya, A. Yoshino, S. Nishida, Y. Kajii, M. Martinez, D. Kubistin, H. Harder, J. Lelieveld, T. Elste, C. Plass-Dulmer, G. Stange, H. Berresheim, and U. Schurath (2012), HO<sub>x</sub> budgets during HO<sub>x</sub>Comp: A case study of HO<sub>x</sub> chemistry under NO<sub>x</sub>-limited conditions, *J Geophys Res-Atmos*, 117.
29. Ehn, M., E. Kleist, H. Junninen, T. Petaja, G. Lonn, S. Schobesberger, M. Dal Maso, A. Trimborn, M. Kulmala, D. R. Worsnop, A. Wahner, J. Wildt, and T. F. Mentel (2012), Gas phase formation of extremely oxidized pinene reaction products in chamber and ambient air, *Atmos Chem Phys*, 12(11), 5113-5127.
30. Donahue, N. M., K. M. Henry, T. F. Mentel, A. Kiendler-Scharr, C. Spindler, B. Bohn, T. Brauers, H. P. Dorn, H. Fuchs, R. Tillmann, A. Wahner, H. Saathoff, K. H. Naumann, O. Mohler, T. Leisner, L. Muller, M. C. Reinnig, T. Hoffmann, K. Salo, M. Hallquist, M. Frosch, M. Bilde, T. Tritscher, P. Barmet, A. P. Praplan, P. F. DeCarlo, J. Dommen, A. S. H. Prevot, and U. Baltensperger (2012), Aging of biogenic secondary organic aerosol via gas-phase OH radical reactions, *Proceedings of the National Academy of Sciences of the United States of*

*America*, 109(34), 13503-13508.

31. Nehr, S., B. Bohn, H. Fuchs, A. Hofzumahaus, and A. Wahner (2011), HO<sub>2</sub> formation from the OH plus benzene reaction in the presence of O-2, *Phys Chem Chem Phys*, 13(22), 10699-10708.
32. Gensch, I., W. Laumer, O. Stein, B. Kammer, T. Hohaus, H. Saathoff, R. Wegener, A. Wahner, and A. Kiendler-Scharr (2011), Temperature dependence of the kinetic isotope effect in beta-pinene ozonolysis, *J Geophys Res-Atmos*, 116.
33. Fuchs, H., B. Bohn, A. Hofzumahaus, F. Holland, K. D. Lu, S. Nehr, F. Rohrer, and A. Wahner (2011), Detection of HO<sub>2</sub> by laser-induced fluorescence: calibration and interferences from RO<sub>2</sub> radicals, *Atmos Meas Tech*, 4(6), 1209-1225.
34. Fry, J. L., A. Kiendler-Scharr, A. W. Rollins, T. Brauers, S. S. Brown, H. P. Dorn, W. P. Dube, H. Fuchs, A. Mensah, F. Rohrer, R. Tillmann, A. Wahner, P. J. Wooldridge, and R. C. Cohen (2011), SOA from limonene: role of NO<sub>3</sub> in its generation and degradation, *Atmos Chem Phys*, 11(8), 3879-3894.
35. Zhao, D. F., A. Buchholz, T. F. Mentel, K. P. Muller, J. Borchardt, A. Kiendler-Scharr, C. Spindler, R. Tillmann, A. Trimborn, T. Zhu, and A. Wahner (2010), Novel method of generation of Ca(HCO<sub>3</sub>)<sub>2</sub> and CaCO<sub>3</sub> aerosols and first determination of hygroscopic and cloud condensation nuclei activation properties, *Atmos Chem Phys*, 10(17), 8601-8616.
36. Lu, K. D., Y. H. Zhang, H. Su, M. Shao, L. M. Zeng, L. J. Zhong, Y. R. Xiang, C. C. Chang, C. K. C. Chou, and A. Wahner (2010), Regional ozone pollution and key controlling factors of photochemical ozone production in Pearl River Delta during summer time, *Sci China Chem*, 53(3), 651-663.
37. Lu, K. D., Y. H. Zhang, H. Su, T. Brauers, C. C. Chou, A. Hofzumahaus, S. C. Liu, K. Kita, Y. Kondo, M. Shao, A. Wahner, J. L. Wang, X. S. Wang, and T. Zhu (2010), Oxidant (O-3 + NO<sub>2</sub>) production processes and formation regimes in Beijing, *J Geophys Res-Atmos*, 115.
38. Lou, S., F. Holland, F. Rohrer, K. Lu, B. Bohn, T. Brauers, C. C. Chang, H. Fuchs, R. Haseler, K. Kita, Y. Kondo, X. Li, M. Shao, L. Zeng, A. Wahner, Y. Zhang, W. Wang, and A. Hofzumahaus (2010), Atmospheric OH reactivities in the Pearl River Delta - China in summer 2006: measurement and model results, *Atmos Chem Phys*, 10(22), 11243-11260.
39. Li, X., T. Brauers, M. Shao, R. M. Garland, T. Wagner, T. Deutschmann, and A. Wahner (2010), MAX-DOAS measurements in southern China: retrieval of aerosol extinctions and validation using ground-based in-situ data, *Atmos Chem Phys*, 10(5), 2079-2089.
40. Fuchs, H., T. Brauers, H. P. Dorn, H. Harder, R. Haseler, A. Hofzumahaus, F. Holland, Y. Kanaya, Y. Kajii, D. Kubistin, S. Lou, M. Martinez, K. Miyamoto, S. Nishida, M. Rudolf, E. Schlosser, A. Wahner, A. Yoshino, and U. Schurath (2010), Technical Note: Formal blind intercomparison of HO<sub>2</sub> measurements in the atmosphere simulation chamber SAPHIR during the HO<sub>x</sub>Comp campaign, *Atmos Chem Phys*, 10(24), 12233-12250.
41. Fuchs, H., S. M. Ball, B. Bohn, T. Brauers, R. C. Cohen, H. P. Dorn, W. P. Dube, J. L. Fry, R. Haseler, U. Heitmann, R. L. Jones, J. Kleffmann, T. F. Mentel, P. Musgen, F. Rohrer, A. W. Rollins, A. A. Ruth, A. Kiendler-Scharr, E. Schlosser, A. J. L. Shillings, R. Tillmann, R. M. Varma, D. S. Venables, G. V. Tapia, A. Wahner, R. Wegener, P. J. Wooldridge, and S. S. Brown (2010), Intercomparison of measurements of NO<sub>2</sub> concentrations in the atmosphere simulation chamber SAPHIR during the NO<sub>3</sub>Comp campaign, *Atmos Meas Tech*, 3(1), 21-37.
42. Wiedensohler, A., Y. F. Cheng, A. Nowak, B. Wehner, P. Achtert, M. Berghof, W. Birmili, Z. J. Wu, M. Hu, T. Zhu, N. Takegawa, K. Kita, Y. Kondo, S. R. Lou, A. Hofzumahaus, F. Holland, A. Wahner, S. S. Gunthe, D. Rose, H. Su, and U. Poschl (2009), Rapid aerosol particle growth and increase of cloud condensation nucleus activity by secondary aerosol formation and condensation: A case study for regional air pollution in northeastern China, *J Geophys Res-Atmos*, 114.
43. Takegawa, N., T. Miyakawa, M. Kuwata, Y. Kondo, Y. Zhao, S. Han, K. Kita, Y. Miyazaki, Z. Deng, R. Xiao, M. Hu, D. van Pinxteren, H. Herrmann, A. Hofzumahaus, F. Holland, A. Wahner, D. R. Blake, N. Sugimoto, and T. Zhu (2009), Variability of submicron aerosol observed at a rural site in Beijing in the summer of 2006, *J Geophys Res-Atmos*, 114.
44. Schlosser, E., T. Brauers, H. P. Dorn, H. Fuchs, R. Haseler, A. Hofzumahaus, F. Holland, A. Wahner, Y. Kanaya, Y. Kajii, K. Miyamoto, S. Nishida, K. Watanabe, A. Yoshino, D. Kubistin, M. Martinez, M. Rudolf, H. Harder, H. Berresheim, T. Elste, C. Plass-Dulmer, G. Stange, and U. Schurath (2009), Technical Note: Formal blind intercomparison of OH measurements: results from the international campaign HO<sub>x</sub>Comp, *Atmos Chem Phys*, 9(20), 7923-7948.
45. Mentel, T. F., J. Wildt, A. Kiendler-Scharr, E. Kleist, R. Tillmann, M. Dal Maso, R. Fisseha, T. Hohaus, H. Spahn, R. Uerlings, R. Wegener, P. T. Griffiths, E. Dinar, Y. Rudich, and A. Wahner (2009), Photochemical production of aerosols from real plant emissions, *Atmos Chem Phys*, 9(13), 4387-4406.

46. Kiendler-Scharr, A., J. Wildt, M. Dal Maso, T. Hohaus, E. Kleist, T. F. Mentel, R. Tillmann, R. Uerlings, U. Schurr, and A. Wahner (2009), New particle formation in forests inhibited by isoprene emissions, *Nature*, *461*(7262), 381-384.
47. Kiendler-Scharr, A., J. Wildt, M. Dal Maso, T. Hohaus, E. Kleist, T. F. Mentel, R. Tillmann, R. Uerlings, U. Schurr, and A. Wahner (2009), New particle formation in forests inhibited by isoprene emissions, *Nature*, *461*(7262), 381-384.
48. Hofzumahaus, A., F. Rohrer, K. D. Lu, B. Bohn, T. Brauers, C. C. Chang, H. Fuchs, F. Holland, K. Kita, Y. Kondo, X. Li, S. R. Lou, M. Shao, L. M. Zeng, A. Wahner, and Y. H. Zhang (2009), Amplified Trace Gas Removal in the Troposphere, *Science*, *324*(5935), 1702-1704.
49. Fisseha, R., H. Spahn, R. Wegener, T. Hohaus, G. Brasse, H. Wissel, R. Tillmann, A. Wahner, R. Koppmann, and A. Kiendler-Scharr (2009), Stable carbon isotope composition of secondary organic aerosol from beta-pinene oxidation, *J Geophys Res-Atmos*, *114*.
50. Wahner, A. D., S. J. Lincoln, M. Farrer, J. M. Bronstein, M. G. Cockburn, and B. Ritz (2008), Increased risk of Parkinson's disease associated with dopamine transporter variability and pesticide exposure, *Movement Disord*, *23*(1), S246-S246.
51. Wahner, A. D., J. M. Bronstein, Y. M. Bordelon, and B. Ritz (2008), Statin use and the risk of Parkinson disease, *Neurology*, *70*(16), 1418-1422.
52. Thoma, P., K. Johann, A. Wahner, G. Juckel, and I. Daum (2008), Recollective experience in alcohol dependence: a laboratory study, *Addiction*, *103*(12), 1969-1978.
53. Apel, E. C., T. Brauers, R. Koppmann, B. Bandowe, J. Bossmeyer, C. Holzke, R. Tillmann, A. Wahner, R. Wegener, A. Brunner, M. Jocher, T. Ruuskanen, C. Spirig, D. Steigner, R. Steinbrecher, E. G. Alvarez, K. Muller, J. P. Burrows, G. Schade, S. J. Solomon, A. Ladstatter-Weissenmayer, P. Simmonds, D. Young, J. R. Hopkins, A. C. Lewis, G. Legreid, S. Reimann, A. Hansel, A. Wisthaler, R. S. Blake, A. M. Ellis, P. S. Monks, and K. P. Wyche (2008), Intercomparison of oxygenated volatile organic compound measurements at the SAPHIR atmosphere simulation chamber, *J Geophys Res-Atmos*, *113*(D20).
54. Wegener, R., T. Brauers, R. Koppmann, S. R. Bares, F. Rohrer, R. Tillmann, A. Wahner, A. Hansel, and A. Wisthaler (2007), Simulation chamber investigation of the reactions of ozone with short-chained alkenes, *J Geophys Res-Atmos*, *112*(D13).
55. Wahner, A., I. Geert, and K. Moortgat (2007), The atmosphere at a photochemical reactor, *Chem Unserer Zeit*, *41*(3), 192-198.
56. Schlosser, E., B. Bohn, T. Brauers, H. P. Dorn, H. Fuchs, R. Haseler, A. Hofzumahaus, F. Holland, F. Rohrer, L. O. Rupp, M. Siese, R. Tillmann, and A. Wahner (2007), Intercomparison of two hydroxyl radical measurement techniques at the atmosphere simulation chamber SAPHIR, *J Atmos Chem*, *56*(2), 187-205.
57. Poppe, D., T. Brauers, H. P. Dorn, M. Karl, T. Mentel, E. Schlosser, R. Tillmann, R. Wegener, and A. Wahner (2007), OH-initiated degradation of several hydrocarbons in the atmosphere simulation chamber SAPHIR, *J Atmos Chem*, *57*(3), 203-214.
58. Brauers, T., J. Bossmeyer, H. P. Dorn, E. Schlosser, R. Tillmann, R. Wegener, and A. Wahner (2007), Investigation of the formaldehyde differential absorption cross section at high and low spectral resolution in the simulation chamber SAPHIR, *Atmos Chem Phys*, *7*(13), 3579-3586.
59. Wahner, A. (2006), In the news - Julich scientists study air quality in China, *Trac-Trend Anal Chem*, *25*(8), Iii-Iv.
60. Toenges-Schuller, N., O. Stein, F. Rohrer, A. Wahner, A. Richter, J. P. Burrows, S. Beirle, T. Wagner, U. Platt, and C. D. Elvidge (2006), Global distribution pattern of anthropogenic nitrogen oxide emissions: Correlation analysis of satellite measurements and model calculations, *J Geophys Res-Atmos*, *111*(D5).
61. Karl, M., H. P. Dorn, F. Holland, R. Koppmann, D. Poppe, L. Rupp, A. Schaub, and A. Wahner (2006), Product study of the reaction of OH radicals with isoprene in the atmosphere simulation chamber SAPHIR, *J Atmos Chem*, *55*(2), 167-187.
62. Bossmeyer, J., T. Brauers, C. Richter, F. Rohrer, R. Wegener, and A. Wahner (2006), Simulation chamber studies on the NO<sub>3</sub> chemistry of atmospheric aldehydes, *Geophys Res Lett*, *33*(18).
63. Rohrer, F., B. Bohn, T. Brauers, D. Bruning, F. J. Johnen, A. Wahner, and J. Kleffmann (2005), Characterisation of the photolytic HONO-source in the atmosphere simulation chamber SAPHIR, *Atmos Chem Phys*, *5*, 2189-2201.
64. Kleffmann, J., T. Gavriloaiei, A. Hofzumahaus, F. Holland, R. Koppmann, L. Rupp, E. Schlosser, M. Siese, and A. Wahner (2005), Daytime formation of nitrous acid: A major source of OH radicals in a forest, *Geophys Res Lett*, *32*(5).

65. Bohn, B., F. Rohrer, T. Brauers, and A. Wahner (2005), Actinometric measurements of NO<sub>2</sub> photolysis frequencies in the atmosphere simulation chamber SAPHIR, *Atmos Chem Phys*, 5, 493-503.
66. Xu, Y., A. E. Wahner, and P. L. Nguyen (2004), Progression of chronic myeloid leukemia to blast crisis during treatment with imatinib mesylate, *Arch Pathol Lab Med*, 128(9), 980-985.
67. Karl, M., T. Brauers, H. P. Dorn, F. Holland, M. Komenda, D. Poppe, F. Rohrer, L. Rupp, A. Schaub, and A. Wahner (2004), Kinetic Study of the OH-isoprene and O<sub>3</sub>-isoprene reaction in the atmosphere simulation chamber, SAPHIR, *Geophys Res Lett*, 31(5).
68. Folkers, M., T. F. Mentel, and A. Wahner (2003), Influence of an organic coating on the reactivity of aqueous aerosols probed by the heterogeneous hydrolysis of N<sub>2</sub>O<sub>5</sub>, *Geophys Res Lett*, 30(12).
69. Wahner, A. (2002), SAPHIR : Simulation of Atmospheric Photochemistry in a Large Reaction Chamber: A novel instrument., *Abstr Pap Am Chem S*, 224, U306-U306.
70. Geiger, H., B. I. K. H. Becker, B. Bohn, T. Brauers, B. Donner, H. P. Dorn, M. Elend, C. M. F. Dinis, D. Grossmann, H. Hass, H. Hein, A. Hoffmann, L. Hoppe, F. Hulsemann, D. Kley, B. Klotz, H. G. Libuda, T. Maurer, D. Mihelcic, G. K. Moortgat, R. Olariu, P. Neeb, D. Poppe, L. Ruppert, C. G. Sauer, O. Shestakov, H. Somnitz, W. R. Stockwell, L. P. Thuner, A. Wahner, P. Wiesen, F. Zabel, R. Zellner, and C. Zetzsch (2002), Chemical mechanism development: Laboratory studies and model applications, *J Atmos Chem*, 42(1), 323-357.
71. Wallace, P. K., P. A. Kaufman, L. D. Lewis, T. Keler, A. L. Givan, J. L. Fisher, M. G. Waugh, A. E. Wahner, P. M. Guyre, M. W. Fanger, and M. S. Ernstoff (2001), Bispecific antibody-targeted phagocytosis of HER-2/neu expressing tumor cells by myeloid cells activated in vivo, *J Immunol Methods*, 248(1-2), 167-182.
72. Mentel, T. F., M. Sohn, and A. Wahner (1999), Nitrate effect in the heterogeneous hydrolysis of dinitrogen pentoxide on aqueous aerosols, *Phys Chem Chem Phys*, 1(24), 5451-5457.
73. Wahner, A., T. F. Mentel, M. Sohn, and J. Stier (1998), Heterogeneous reaction of N<sub>2</sub>O<sub>5</sub> on sodium nitrate aerosol, *J Geophys Res-Atmos*, 103(D23), 31103-31112.
74. Wahner, A., T. F. Mentel, and M. Sohn (1998), Gas-phase reaction of N<sub>2</sub>O<sub>5</sub> with water vapor: Importance of heterogeneous hydrolysis of N<sub>2</sub>O<sub>5</sub> and surface desorption of HNO<sub>3</sub> in a large teflon chamber, *Geophys Res Lett*, 25(12), 2169-2172.
75. Ehhalt, D. H., F. Rohrer, A. Wahner, M. J. Prather, and D. R. Blake (1998), On the use of hydrocarbons for the determination of tropospheric OH concentrations, *J Geophys Res-Atmos*, 103(D15), 18981-18997.
76. Brasseur, G. P., R. A. Cox, D. Hauglustaine, I. Isaksen, J. Lelieveld, D. H. Lister, R. Sausen, U. Schumann, A. Wahner, and P. Wiesen (1998), European scientific assessment of the atmospheric effects of aircraft emissions, *Atmos Environ*, 32(13), 2329-2418.
77. Benning, L., and A. Wahner (1998), Measurements of atmospheric formaldehyde (HCHO) and acetaldehyde (CH<sub>3</sub>CHO) during POPCORN 1994 using 2,4-DNPH coated silica cartridges, *J Atmos Chem*, 31(1-2), 105-117.
78. Wahner, A., T. F. Mentel, and M. Sohn (1997), Heterogeneous conversion of nitrogen oxides at urban concentrations and low humidities, *Abstr Pap Am Chem S*, 214, 5-Coll.
79. Wahner, A., and D. Becker (1997), Heterogeneous processes of NO<sub>2</sub> and HNO<sub>2</sub> on aqueous surfaces, *Proceedings of Eurotrac Symposium '96 - Transport and Transformation of Pollutants in the Troposphere, Vol 1*, 317-321.
80. Stier, J., T. F. Mentel, and A. Wahner (1997), Heterogeneous conversion of nitrogen oxides on NaNO<sub>3</sub> aerosol surfaces, *Proceedings of Eurotrac Symposium '96 - Transport and Transformation of Pollutants in the Troposphere, Vol 1*, 299-302.
81. Mentel, T. F., M. Sohn, J. Stier, and A. Wahner (1997), Heterogeneous conversion of nitrogen oxides on sodium salt aerosols, *Abstr Pap Am Chem S*, 214, 14-Coll.
82. Mentel, T. F., D. Bleilebens, M. Sohn, and A. Wahner (1997), A study of the night-time oxidation of nitrogen oxides in a large reaction chamber: Homogeneous gas phase chemistry at different humidities, *Proceedings of Eurotrac Symposium '96 - Transport and Transformation of Pollutants in the Troposphere, Vol 2*, 611-615.
83. Benning, L., A. Hofzumahaus, A. Kraus, and A. Wahner (1997), Aldehydes in the troposphere: Their impact on HO<sub>x</sub> chemistry., *Proceedings of Eurotrac Symposium '96 - Transport and Transformation of Pollutants in the Troposphere, Vol 2*, 203-206.
84. Stier, J., T. F. Mentel, and A. Wahner (1996), Physical characterisation of aerosols and heterogeneous reactions in a large atmospheric chamber, *Nucleation and Atmospheric Aerosols 1996*, 566-569.
85. Schiller, C., and A. Wahner (1996), Stratospheric OClO measurements as a poor quantitative indicator of chlorine activation - Comment, *Geophys Res Lett*, 23(9), 1053-1054.

86. Mentel, T. F., D. Bleilebens, and A. Wahner (1996), A study of nighttime nitrogen oxide oxidation in a large reaction chamber - The fate of NO<sub>2</sub>, N<sub>2</sub>O<sub>5</sub>, HNO<sub>3</sub>, and O<sub>3</sub> at different humidities, *Atmos Environ*, 30(23), 4007-4020.
87. Mertes, S., and A. Wahner (1995), Uptake of Nitrogen-Dioxide and Nitrous-Acid on Aqueous Surfaces, *J Phys Chem-Us*, 99(38), 14000-14006.
88. Wahner, A., F. Rohrer, D. H. Ehhalt, E. Atlas, and B. Ridley (1994), Global Measurements of Photochemically Active Compounds, *Envir Sci R*, 48, 205-222.
89. Mertes, S., and A. Wahner (1993), Heterogeneous Processes of Nitrogen-Dioxide on Liquid Surfaces, *P Soc Photo-Opt Ins*, 1715, 78-87.
90. Mauldin, R. L., A. Wahner, and A. R. Ravishankara (1993), Kinetics and Mechanism of the Self-Reaction of the Bro Radical, *J Phys Chem-Us*, 97(29), 7585-7596.
91. Wahner, A., and C. Schiller (1992), Twilight Variation of Vertical Column Abundances of O<sub>3</sub> and BrO in the North Polar-Region, *J Geophys Res-Atmos*, 97(D8), 8047-8055.
92. Ehhalt, D. H., F. Rohrer, and A. Wahner (1992), Sources and Distribution of NO<sub>x</sub> in the Upper Troposphere at Northern Midlatitudes, *J Geophys Res-Atmos*, 97(D4), 3725-3738.
93. Wahner, A., J. Callies, H. P. Dorn, U. Platt, and C. Schiller (1990), Near Uv Atmospheric Absorption-Measurements of Column Abundances during Airborne Arctic Stratospheric Expedition, January - February 1989 .1. Technique and NO<sub>2</sub> Observations, *Geophys Res Lett*, 17(4), 497-500.
94. Wahner, A., J. Callies, H. P. Dorn, U. Platt, and C. Schiller (1990), Near Uv Atmospheric Absorption-Measurements of Column Abundances during Airborne Arctic Stratospheric Expedition, January - February 1989 .3. BrO Observations, *Geophys Res Lett*, 17(4), 517-520.
95. Schiller, C., A. Wahner, U. Platt, H. P. Dorn, J. Callies, and D. H. Ehhalt (1990), Near Uv Atmospheric Absorption-Measurements of Column Abundances during Airborne Arctic Stratospheric Expedition, January - February 1989 .2. O<sub>3</sub> Observations, *Geophys Res Lett*, 17(4), 501-504.
96. Wahner, A., R. O. Jakoubek, G. H. Mount, A. R. Ravishankara, and A. L. Schmeltekopf (1989), Remote-Sensing Observations of Nighttime O<sub>3</sub> Column during the Airborne Antarctic Ozone Experiment, September 8, 1987, *J Geophys Res-Atmos*, 94(D9), 11405-11411.
97. Wahner, A., R. O. Jakoubek, G. H. Mount, A. R. Ravishankara, and A. L. Schmeltekopf (1989), Remote-Sensing Observations of Daytime Column NO<sub>2</sub> during the Airborne Antarctic Ozone Experiment, August 22 to October 2, 1987, *J Geophys Res-Atmos*, 94(D14), 16619-16632.
98. Margitan, J. J., G. A. Brothers, E. V. Browell, D. Cariolle, M. T. Coffey, J. C. Farman, C. B. Farmer, G. L. Gregory, J. W. Harder, D. J. Hofmann, W. Hynes, S. Ismail, R. O. Jakoubek, W. Komhyr, S. Kooi, A. J. Krueger, J. C. Larsen, W. Mankin, M. P. McCormick, G. H. Mount, M. H. Proffitt, A. R. Ravishankara, A. L. Schmeltekopf, W. L. Starr, G. C. Toon, A. Torres, A. F. Tuck, A. Wahner, and I. Watterson (1989), Intercomparison of Ozone Measurements over Antarctica, *J Geophys Res-Atmos*, 94(D14), 16557-16569.
99. Wahner, A., A. R. Ravishankara, S. P. Sander, and R. R. Friedl (1988), Absorption Cross-Section of BrO between 312 and 385 Nm at 298 and 223-K, *Chem Phys Lett*, 152(6), 507-512.
100. Schroder, J., C. Linge, and A. Wahner (1988), Differential-Diagnosis of Malignant Hyperthermia, Lethal Catatonia and Neuroleptic Malignant Syndrome - a Case-Report, *Fortschr Neurol Psyc*, 56(3), 97-101.
101. Wahner, A., G. S. Tyndall, and A. R. Ravishankara (1987), Absorption Cross-Sections for O<sub>3</sub> as a Function of Temperature in the Wavelength Range 240-480 Nm, *J Phys Chem-Us*, 91(11), 2734-2738.
102. Wahner, A., and A. R. Ravishankara (1987), The Kinetics of the Reaction of OH with COS, *J Geophys Res-Atmos*, 92(D2), 2189-2194.
103. Wahner, A., and C. Zetzsch (1985), The Reaction of OH with C<sub>2</sub>H<sub>2</sub> at Atmospheric Conditions Investigated by CW-Uv-Laser-Longpath-Absorption of OH, *Ber Bunsen Phys Chem*, 89(3), 323-325.
104. Witte, F., A. Wahner, and C. Zetzsch (1983), Temperature-Dependence of the Addition of OH to Benzene in the Gas-Phase and the Subsequent Unimolecular Decay of the Adduct, *B Soc Chim Belg*, 92(6-7), 625-626.
105. Wahner, A., and C. Zetzsch (1983), Rate Constants for the Addition of OH to Aromatics (Benzene, Para-Chloroaniline, and Ortho-Dichlorobenzene, Meta-Dichlorobenzene, and Para-Dichlorobenzene) and the Unimolecular Decay of the Adduct - Kinetics into a Quasi-Equilibrium .1., *J Phys Chem-Us*, 87(24), 4945-4951.
106. Rinke, M., A. Wahner, and C. Zetzsch (1981), Dependence of the Rate of OH Addition to Aromatics on the Ionization-Potential - a Predictive Tool for Rate Constants, *J Photochem*, 17(1-2), 142-142.